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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/826,529	04/15/2004	Kwok Wai Cheung	IPVBP001	2162
34071 7590 01/03/2007 IPVENTURE, INC. 5150 EL CAMINO REAL SUITE A-22 LOS ALTOS, CA 94022			EXAMINER TRINH, TAN H	
			ART UNIT 2618	PAPER NUMBER
SHORTENED STATUTORY PERIOD OF RESPONSE			MAIL DATE	
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			DELIVERY MODE PAPER	

Please find below and/or attached an Office communication concerning this application or proceeding.

If NO period for reply is specified above, the maximum statutory period will apply and will expire 6 MONTHS from the mailing date of this communication.

Office Action Summary

Application No.

10/826,529

Applicant(s)

CHEUNG ET AL.

Examiner

TAN TRINH

Art Unit

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 15 April 2004.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 25-47 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 25-47 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☒ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 15 April 2004 and 27 September 2004 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
 - ☐ Certified copies of the priority documents have been received in Application No. _____.
 - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- ☒ Notice of References Cited (PTO-892)
- ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- ☒ Information Disclosure Statement(s) (PTO/SB/08)
Paper No(s)/Mail Date _____
- ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____
- ☐ Notice of Informal Patent Application
- ☐ Other: _____

DETAILED ACTION

Information Disclosure Statement

1. The information disclosure statement (IDS) submitted on 01-21-2005, 02-22-2005 and 08-09-2005, the information disclosure statement has been considered by the examiner.

Specification

2. The serial numbers of the copending or related application on pages 1 and 22 of the specification should be provided.

Claim Rejections - 35 USC § 112

3. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

4. Claim 28 is rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention. It is not clear if the phrase “ wherein the another mode of operation is deactivated when the speaker is attached to the clothing” is referring to. However, the specification at paragraph 91 states that if the phone is attached to the clothing, the speaker of the interface unit can be automatically activated. Therefore, the term “deactivated” in claim 28 should be change to “activated” in order to obtain consistency.

Claim Rejections - 35 USC § 102

5. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

6. Claims 25, 30-31, 33, 35-37, 39-40 and 44 are rejected under 35 U.S.C. 102(e) as being anticipated by Warren (U.S. Patent No. 7,013,009).

Regarding claim 25, Warren teaches a wireless communication system (see fig. 1) comprising: a directional speaker (24) attachable to a piece of clothing worn (see fig. 1, speaker 24, col. 2, lines 47-61 and col. 7, lines 16-43); a microphone (20), and a base unit (32) coupled to both the speaker and the microphone to allow the being to use the system to communicate wirelessly with another communication device (34) (see fig. 1, base unit 32 (cell phone 32) coupled speaker (24) and microphone (20), col. 3, lines 38-55); wherein signals emitted from the speaker are directed towards at least one ear of the being from the worn position of the speaker (see fig. 1, col. 3, lines 51-55); the wireless communication system can be operated hands-free and the signals are directional to allow communication with enhanced privacy (see col. 1, lines 59-col. 2, lines 1, col. 3, lines 55-58 and col. 5, lines 4-7).

Regarding claim 30, Warren teaches a wireless communication system as recited in claim 25. Warren further teaches wherein the speaker and microphone are integrated with the clothing (see fig. 10, col. 7, lines 16-33).

Regarding claim 31, Warren teaches a wireless communication system as recited in claim 25. Warren further teaches wherein the speaker and microphone couple to the base unit wirelessly (see fig. 1, base unit (cell phone) 32, col. 3, lines 38-55).

Regarding claim 33, Warren teaches a wireless communication system as recited in claim 25. Warren further teaches wherein another directional speaker attachable to the clothing with the two speakers creating stereo effects (see col. 5, lines 11-17 and col. 7, lines 29-33).

Regarding claim 35, Warren teaches a wireless communication system as recited in claim 25. Warren further teaches wherein the base unit includes a display; and the base unit includes capability to allow it to function as a computation device (see fig. 1, base unit 32 (cell phone 32) with the display, col. 3, lines 37-55 and col. 4, lines 13-31).

Regarding claim 36, Warren teaches a wireless communication system as recited in claim 25. Warren further teaches wherein the signals can be personalized based on the hearing characteristics of the being (see col. 5, lines 15-17). Since Warren discloses a volume control for the speaker, it is clear that the user can adjust the audio signal based on his hearing characteristics.

Regarding claim 37, Warren teaches a wireless communication system as recited in claim 25. Warren further teaches wherein the signals can be personalized based on the noise level in

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the vicinity of the being (see col. 5, lines 15-17). Since Warren discloses a volume control for the speaker, it is clear that the user can adjust the audio signal based on the noise level.

Regarding claim 39, Warren teaches a wireless communication device (see fig. 1), wherein the improvement comprises a personal directional speaker (24) that can direct audio signals towards a user's ear (see fig. 1, speaker 24, user's ear, col. 3, lines 37-55 and col. 5, lines 4-7).

Regarding claim 40, Warren teaches a wireless communication device as recited in claim 39. Warren further teaches wherein the wireless communication device is a mobile phone (see fig. 1, mobile phone 32, col. 3, lines 39-45).

Regarding claim 44, Warren teaches a wireless communication device as recited in claim 39. Warren further teaches wherein the audio signals from the directional speaker can be steered (see col. 2, lines 47-51 and col. 5, lines 10-17).

Claim Rejections - 35 USC § 103

7. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

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8. Claim 26-27, 29 and 41-43 are rejected under 35 U.S.C. 103(a) as being unpatentable over Warren (U.S. Patent No. 7,013,009) in view of Norris (U.S. Patent No. 6,151,398).

Regarding claim 26, Warren teaches a wireless communication system comprises the directional speaker. But Warren does not mention the speaker generates ultrasonic signals; which are transformed into audio signals.

However, Norris teaches wherein the speaker generates ultrasonic signals; which are transformed into audio signals (see col. 9, lines 12-21).

Therefore, it would have been obvious to one of ordinary skill in the art at the time invention was made to modify above teaching of Warren with Norris, in order to provide a surprising increase in volume to the audio output signal (see Norris col. 9, lines 12-14).

Regarding claim 27, the combination of Warren and Norris teaches a wireless communication system as recited in claim 26. Warren further teaches wherein the system includes another mode of operation that generates audio signals directly from the speaker (see the hands free mode at col. 3, lines 56-58 and col. 5, lines 18-24).

Regarding claim 29, Warren teaches a wireless communication system comprises with directional speaker. But Warren does not mention wherein the speaker is selected from a group including: a device with a piezoelectric thin film, a device with a bimorph and a device with a magnetic transducer.

However, Norris teaches wherein the speaker is selected from a group including: a device with a piezoelectric (see col. col. 2, lines 15-17 and lines 63-65).

Therefore, it would have been obvious to one of ordinary skill in the art at the time invention was made to modify above teaching of Warren with Norris, in order to produce a mechanical force when a voltage is applied.

Regarding claim 41, Warren teaches a wireless communication system comprises the directional speaker. But Warren does not mention the speaker generates ultrasonic signals; which are transformed in air to yield the audio signals.

However, Norris teaches wherein the speaker generates ultrasonic signals; which are transformed in air to yield the audio signals (see col. 9, lines 12-21).

Therefore, it would have been obvious to one of ordinary skill in the art at the time invention was made to modify above teaching of Warren with Norris, in order to provide a surprising increase in volume to the audio output signal (see Norris col. 9, lines 12-14).

Regarding claim 42, the combination of Warren and Norris teaches a wireless communication system with the directional speaker and emitting ultrasonic signals as recited in claim 41. Warren further teaches wherein the directional speaker directs and towards the audio signals to the user's ear (see fig. 1, speaker 24, user's ear, col. 3, lines 37-55 and col. 5, lines 4-7). Therefore, it would have been obvious to one of ordinary skill in the art at the time invention was made to modify above teaching of Warren with Norris, so that it play sounds toward the user's ear but does not play sounds that can be easily heard by bystanders (see Warren col. 5, lines 5-7).

Regarding claim 43, the combination of Warren and Norris teaches a wireless communication system with the directional speaker and emitting ultrasonic signals as recited in claim 41. Warren further teaches wherein the directional speaker directs the audio signals to the user's ear by the signals in a direction substantially parallel to the face of the user (see warren figs. 1 and 10-11, which show the audio signals are generated downward to the ear, which are clearly parallel to the face of the user).

9. Claim 32 is rejected under 35 U.S.C. 103(a) as being unpatentable over Warren (U.S. Patent No. 7,013,009) in view of Hwang (U.S. Pub. No. 2002/0090099).

Regarding claim 32, Warren teaches a wireless communication system. But Warren does not mention an indicator for providing an indication that the system is being used to communicate wireless with another communication.

However, Hwang teaches an indicator for providing an indication that the system is being used to communicate wireless with another communication (see figs. 1-2, display 208, indicator for providing caller ID and the system is being using, page 2, section [0018]).

Therefore, it would have been obvious to one of ordinary skill in the art at the time invention was made to modify above teaching of Warren and by the providing of the teaching of Hwang on the indicator, thereto in order to provide call information to the user (see page 2, section [0018]).

10. Claim 34 is rejected under 35 U.S.C. 103(a) as being unpatentable over Warren (U.S. Patent No. 7,013,009) in view of Voroba (U.S. Patent No. 5,819,183).

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Regarding claim 34, Warren teaches a wireless communication system comprises the speaker (24), the microphone (20) and the base unit (32). But Warren does not mention wherein the speaker, the microphone and the base unit are integrated into one package.

However, Voroba teaches wherein the speaker, the microphone and the base unit are integrated into one package (see fig. 2, directional speaker 106, microphone 108 and base unit (wireless phone 100) are integrated into one package, col. 5, lines 41-50).

Therefore, it would have been obvious to one of ordinary skill in the art at the time invention was made to modify above teaching of Warren with Voroba, in order to provide a compact storage for the system.

11. Claims 38 is rejected under 35 U.S.C. 103(a) as being unpatentable over Voroba (U.S. Patent No. 5,819,183) in view of Norris (U.S. Patent No. 6,151,398).

Regarding claim 38, Voroba teaches a portable computing system (100) for a user (see fig. 2) comprising: a directional speaker (106), a microphone (108) a display (104); and a computing device (100) coupled to the speaker (106), the microphone (108) and the display (104) (see fig. 2, col. 1, lines 50-51 and col. 5, lines 41-50), wherein the user can use the system to communicate wireless with another communication device (see fig. 1, col. 2, lines 47-51), wherein signals emitted from the speaker can be directed towards the user from the position the system is used (fig. 4, direction "d" of speaker 106, col. 5, lines 32-59 and col. 6, lines 41-45), wherein the user can communicate with another communication device in a hands-free manner (see col. 5, lines 32-40), wherein the system is enabled for data as well as voice communication (see col. 2, lines 32-38), and wherein the signals emitted from the speaker are directional to

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allow communication with enhanced privacy (see 5, lines 66 - col. 6, lines 8). Since the earpiece is used, it would enhance privacy. Voroba teaches a directional speaker (see col. 2, lines 50-51). But Voroba does not mention the speaker, which generates ultrasonic signals that are transformed to produce audio signals.

However, Norris teaches wherein the speaker generates ultrasonic signals; which are transformed into audio signals (see col. 9, lines 12-21).

Therefore, it would have been obvious to one of ordinary skill in the art at the time invention was made to modify above teaching of Warren with Norris, in order to provide a surprising increase in volume to the audio output signal (see Norris col. 9, lines 12-14).

12. Claim 45 is rejected under 35 U.S.C. 103(a) as being unpatentable over Warren (U.S. Patent No. 7,013,009) in view of Asada (U.S. Pub. No. 2002/0191807).

Regarding claim 45, Warren teaches wherein the directional speaker directs the audio signals to the user's ear (see fig. 1, directional speaker 24, and user's ear, col. 5; lines 1-14). But Warren does not mention a physical horn forming part of the speaker.

However, Asada teaches a horn speaker (see page 1, section [0006]).

Therefore, it would have been obvious to one of ordinary skill in the art at the time invention was made to modify above teaching of Warren with Asada, in order to enhance the acoustic sound from the diaphragm and radiating the enhanced sound (see Asada page 1, section [0006]).

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13. Claims 46-47 are rejected under 35 U.S.C. 103(a) as being unpatentable over Warren (U.S. Patent No. 7,013,009) in view of Gallery (U.S. Patent No. 4,128,738).

Regarding claim 46, Warren further teaches wherein the directional speaker directs the audio signals to the user's ear by confining the audio signals substantially having an input end at the directional speaker and an output end at the vicinity of the user's ear (see fig. 1, directional speaker 24 with input end at the directional speaker and an output end and user's ear, col. 3, lines 37-55 and col. 5, lines 1-14). But Warren does not mention the speaker with a virtual cone.

However, Gallery teaches the speaker with a virtual cone (see col. 3, lines 41-46).

Therefore, it would have been obvious to one of ordinary skill in the art at the time invention was made to modify above teaching of Warren with Gallery, in order to provide a compact speaker system (see Gallery col. 3, line 48).

Regarding claim 47, the combination of Warren and Gallery teaches a wireless communication system as recited in claim 46. Gallery further teaches the diameter of the virtual cone at the output end is less than 6 inches (see col. 3, lines 43-49).

Therefore, it would have been obvious to one of ordinary skill in the art at the time invention was made to modify above teaching of Warren with Gallery, in order to provide a compact speaker system (see Gallery col. 3, line 48).

Allowable Subject Matter

14. Claim 28 is objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

Reasons for allowance

15. The following is an examiner's statement of reasons for allowance:

Regarding dependent claim 28, the reference of Warren teaches the system includes another mode of operation that generates audio signals directly from the speaker (see the hands free mode at col. 3, lines 56-58 and col. 5, lines 18-24). However, Warren alone or in combination with other prior art of record, fails to disclose the system includes another mode of operation is activated when the speaker is attached to the clothing as specified in independent claim 28.

Conclusion

16. **Any response to this action should be mailed to:**

Commissioner of Patents and Trademarks
Washington, D.C. 20231

or faxed to:

(571) 273-8300, (for Technology Center 2600 only)

*Hand-delivered responses should be brought to the Customer Service Window (now located at the **Randolph Building, 401 Dulany Street, Alexandria, VA 22314**).*

17. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Tan Trinh whose telephone number is (571) 272-7888. The examiner can normally be reached on Monday-Friday from 9:30 AM to 6:00 PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiners supervisor, Anderson, Matthew D., can be reached at (571) 272-4177.

The fax phone number for the organization where this application or proceeding is assigned is **(571) 273-8300**.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the **Technology Center 2600 Customer Service Office** whose telephone number is **(703) 306-0377**.

18. Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Tan H. Trinh
Division 2618
December 10, 2006

PATENT EXAMINER
TRINH, TAN

A handwritten signature in black ink, appearing to read 'Tan H. Trinh', with a horizontal line drawn underneath it.